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TITLE : NATURAL STONE WITH PHOTOCATALYST AND ITS PRODUCTION

ABSTRACT : PROBLEM TO BE SOLVED: To provide a psychologically comfortable environment by depositing a photocatalyst which decomposes pollutants by light on the surface of a natural stone.

SOLUTION: Fine particles of a photocatalyst such as titanium oxide and zinc oxide preferably having 3 to 70 nm diameter, or org. titanium compds. such as tetra-iso-propoxytitanium, tetra-normal-butoxytitanium which produce titanium oxide by thermal decomposition in an oxidative atmosphere are directly applied, or mixed with an inorg. binder such as a cement or an org. binder such as silicone resin and applied on the surface of a natural stone by spraying or the like. Then one or more kinds of antibacterial metal components selected from single elements or compds. of silver, copper, zinc or tin with a binder are applied on the stone. The stone is heat treated at 300 to 600 C to firmly deposit the photocatalyst and the antibacterial metal component on the surface of the natural stone. As for the natural stone, almost all kinds of rocks can be used, for example, igneous rocks such as volcanic rocks and plutonic rocks, sedimentary rocks such as sandstone and conglomerate, and metamorphic rocks such as marble.

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